To generate the 2D image **3620** and the 3D image **3630**, the image processor **1201** computes a vector **3671** that starts at the point **3611** and ends at a central point of the model **3610**. Then, the image processor **1201** uses a cross-section corresponding to the vector **3671** as an ROI to generate the 2D image **3620** and the 3D image **3630**, which both show the ROI.

[0151] Furthermore, to generate the 2D image **3640** and the 3D image **3650**, the image processor **1201** computes a vector **3672** that starts at the point **3612** and ends at the central point of the model **3610**. Then, the image processor **1201** uses a cross-section corresponding to the vector **3672** as an ROI to generate the 2D image **3640** and the 3D image **3650**, which both show the ROI.

[0152] FIG. **13** is a diagram for explaining another example of an operation of the display apparatus **101** according to an exemplary embodiment.

[0153] FIG. **13** illustrates an example of a screen **3700** on which a model **3710** and images **3720**, **3730**, **3740**, **3750**, and **3760** are output.

[0154] As described above with reference to FIG. **7**, the user may select an ROI in the model **3110** output on the initial screen **3100**. In this case, a user input may be an input for selecting one of a plurality of segments into which the model **3710** is partitioned. For example, the user may select a segment by performing a gesture on the model **3710** or by using an input device.

[0155] When a user input for selecting a segment **3711** is received, the display **1401** displays the selected segment **3711** on the model **3710** in such a manner as to be distinguished from non-selected segments. For example, the display **1401** may display the selected segment **3711** in a different color than the non-selected segments.

[0156] The image processor **1201** identifies a cross-section corresponding to the segment **3711** as an ROI to generate a 2D image **3720** and a 3D image **3730**, which both show the ROI. The display **1401** then displays the 2D image **3720** and the 3D image **3730** on the screen **3700**.

[0157] Furthermore, the user may select another segment **3712** as well as the previously selected segment **3711** from among the plurality of segments into which the model **3710** is partitioned. When a user input for selecting the other segment **3712** is received, the display **1401** displays the selected segment **3712** on the model **3710** in such a manner as to be distinguished from non-selected segments. The image processor **1201** then uses a cross-section corresponding to the segment **3712** as an ROI to generate a 2D image **3740** and a 3D image **3750**, which both show the ROI. The display **1401** then displays the 2D image **3740** and the 3D image **3750** on the screen **3700**.

[0158] In addition, the display **1401** may display an image **3760** showing a position relationship between the 2D images **3720** and **3740** on the screen **3700**.

[0159] FIG. **14** is a diagram for explaining another example of an operation of the display apparatus **101** according to an exemplary embodiment.

[0160] FIG. **14** illustrates an example of a screen **3800** on which a model **3810** and images **3820**, **3830**, **3840**, **3850**, and **3860** are output.

[0161] As described above with reference to FIG. **13**, the user may select at least one segment **3711** or **3712** from among the plurality of segments into which the model **3710** is partitioned. The image processor **1201** generates the 2D and 3D images **3720** and **3730** corresponding to the segment **3711** and the 2D and 3D images **3740** and **3750** corresponding to the segment **3712**. The display **1401** displays the 2D and 3D images **3720**, **3730**, **3740**, and **3750** on the screen **3700**.

[0162] Subsequently, the user may enlarge or reduce at least one of the 2D and 3D images **3720**, **3730**, **3740**, and **3750**. For example, the user may enlarge or reduce at least one of the 2D and 3D images **3720**, **3730**, **3740**, and **3750** by performing a gesture on the 2D and 3D images **3720**, **3730**, **3740**, and **3750** or by using an input device.

[0163] For example, if a user input for enlarging the 2D image **3720** is received, the display **1401** displays an enlarged version **3820** of the 2D image **3720** on the screen **3800**. Furthermore, since the 3D image **3730** shows the same ROI as the 2D image **3720**, even when the user input for enlarging the 2D image **3720** is received, the display **1401** displays an enlarged version **3830** of the 3D image **3730** together with the enlarged version **3820**.

[0164] Although FIG. **14** shows examples of the enlarged versions **3820** and **3830** of the 2D and 3D images **3720** and **3730** shown in FIG. **13**, when a user input for reducing an image is received, a reduced version of the 2D or 3D image **3720** or **3730** may be displayed as described above with reference to FIG. **14**.

[0165] FIG. **15** is a diagram for explaining another example of an operation of the display apparatus **101** according to an exemplary embodiment.

[0166] FIG. **15** illustrates an example of a screen **3900** on which a model **3910** and images **3920**, **3930**, **3940**, **3950**, and **3960** are output.

[0167] As described above with reference to FIG. **7**, the user may select an ROI in the model **3110** output on the initial screen **3100**. In this case, a user input may be an input for designating an angle corresponding to the ROI. For example, the user may designate an angle corresponding to the ROI by using an input device. The angle corresponding to the ROI may be an angle with respect to a predetermined axis. For example, the predetermined axis may be determined in a vertical or horizontal direction of the model **3910**, but is not limited thereto.

[0168] When a user input for designating an angle is received, the display **1401** displays the designated angle in a region **3970** of the screen **3900**. The image processor **1201** uses a cross-section corresponding to the designated angle as an ROI to generate a 2D image **3920** and a 3D image **3930**. The display **1401** then displays the generated 2D and 3D images **3920** and **3930** on the screen **3900**.

[0169] Furthermore, the user may designate another angle as well as the previously designated angle. When a user input for designating the other angle is received, the display **1401** additionally displays the other designated angle in the region **3970** of the screen **3900**. The image processor **1201** uses a cross-section corresponding to the other designated angle as an ROI to generate a 2D image **3940** and a 3D image **3950**, which both show the ROI. The display **1401** may display the 2D image **3940** and the 3D image **3950** on the screen **3900**.

[0170] Furthermore, the display **1401** may display an image **3960** showing a position relationship between the 2D images **3920** and **3940** on the screen **3900**.

[0171] FIG. **16** is a flowchart of a method of displaying an image showing an object according to an exemplary embodiment.